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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hitoshi Ohmura

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EXAMINER

ENIN-OKUT, EDU E

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1795

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,844	Applicant(s) OHMURA ET AL.	
	Examiner Edu E. Enin-Okut	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-6,8,9,12-16,21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 10-11 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/19/04, 3/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's provisional election of Claims 7, 10-11 and 17-20 in the reply filed on June 20, 2008 is acknowledged.

Claims 1-6, 8, 9, 12-16 and 21-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on June 20, 2008.

Priority

2. Acknowledgment is made of Applicant's claim for foreign priority to Japanese Patent Application No. 2002-119679, filed on April 22, 2002, under 35 U.S.C. 119(a)-(d). A certified copy of that application has been received.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Du Rose, U.S. Patent No. 3,355,267.

Regarding claim 7, Du Rose discloses a surface treated steel sheet in which a diffusion layer of a nickel-cobalt-phosphorus alloy is formed at the surface (1:12-17, 1:45-52, 5:1-6).

As to a surface treated steel sheet *for a battery case* [emphasis added], if the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the

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claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction (e.g., *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165 (Fed. Cir. 1999); *Rowe v. Dror*, 112 F.3d 473, 478, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997). See MPEP § 211.02 (II).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Du Rose.

Du Rose is applied and incorporated herein for the reasons above.

Regarding claims 10-11, Du Rose teaches that the thickness of the nickel-cobalt-phosphorus alloy is within a range from 0.01 to 0.2 mil (i.e., 0.254 to 5.08 μm) (1:45-46) and that its cobalt content is 0-25% by weight and the phosphorus content is 0.4-10% by weight (1:48-52).

Du Rose does not disclose the claimed range for the thickness of the alloy layer and the weight of cobalt and phosphorous in the alloy layer.

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However, it has been held that obviousness exists where the claimed ranges overlap or lie inside ranges disclosed by the prior art (e.g., *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05 (I).

4. Claims 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirofumi et al., U.S. Patent No. 5,576,113, in view of Du Rose.

Regarding claims 17-18, Hirofumi teaches a steel plate having a nickel-plated layer of the upper and lower surfaces thereof to be processed into a battery can (Abstract; 7:32-40). A sheet 10 made of a nickel-plated steel plate 11 is processed into a battery can 1 (11:49-51; Figs. 15-16). The sheet 10 serves as the substrate for Fe-Ni diffusion layers 12A and 12B disposed on both sides of the steel plate 11, and Ni-plated layers 13 and 14 disposed on the outer side of each of the Fe-Ni diffusion layers (11:51-57; Fig. 15).

Hirofumi et al. does not disclose that the Ni-plated layer on the inner surface of the battery can is an nickel-cobalt-phosphorus alloy .

Du Rose, discussed above, teaches a surface treated steel sheet in which a diffusion layer of a nickel-cobalt-phosphorus alloy is formed at the surface of the sheet. That alloy is disposed atop of a nickel plate layer (Figs. 1-3).

Hirofumi et al. and DuRose are analogous art because they are both concerned with treating a base metal plate for corrosion resistance.

One of ordinary skill in the art at the time of the invention would have found it obvious to use the nickel-cobalt-phosphorus alloy of Du Rose, discussed above, as a Ni-plated layer formed on the inner surface of a battery case of Hirofumi to protect the base material from corrosion (see Du Rose, 1:55-58, 5:1-6)..

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5. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirofumi et al. in view of Du Rose as applied to claim 17 above, and further in view of Ohmura et al., U.S. Patent No. 5,993,994.

Hirofumi and Du Rose are applied and incorporated here in for the reasons above.

Regarding claim 19, neither Hirofumi nor Du Rose expressly teaches an intermediate layer of nickel.

Ohmura teaches the use of a nickel layer as an intermediate layer between two, nickel alloy layers to improve the adhesion of the nickel alloy layer forming the upper surface of a treated steel substrate and to add to the corrosion resistance of the resulting article (4:18-23).

Therefore, one of ordinary skill in the art at the time of the invention would have found it obvious to place an intermediate layer of nickel between the iron-nickel and nickel-cobalt-phosphorus alloy layers formed on the inner surface of the battery case of Hirofumi, as modified by Du Rose, to improve the adhesion between those layers and improve corrosion resistance of the can, as taught by Ohmura.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirofumi et al. and Du Rose as applied to claim 17 above.

Hirofumi and Du Rose are applied and incorporated herein for the reasons above.

Regarding claim 20, Du Rose teaches that the nickel-cobalt-phosphorus alloy layer has a cobalt content is 0-25% by weight and a phosphorus content is 0.4-10% by weight (1:48-52).

Neither Hirofumi nor Du Rose expressly teaches that the claimed ranges of the weight of cobalt and phosphorous in the alloy layer.

However, it has been held that obviousness exists where the claimed ranges overlap or lie inside ranges disclosed by the prior art (e.g., *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2144.05 (I).

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Conclusion

6. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Engelhaupt et al., U.S. Patent No. 6,406,611, discloses an electrolytic plating process is provided for electrodepositing a nickel or nickel cobalt alloy which contains at least about 2% to 25% by atomic volume of phosphorous.

Correspondence / Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Edu E. Enin-Okut** whose telephone number is **571-270-3075**. The examiner can normally be reached on Monday-Thursday, 8 a.m. - 4 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edu E Enin-Okut/
Examiner, Art Unit 1795

/Susy Tsang-Foster/
Supervisory Patent Examiner, Art Unit 1795